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**FEDERAL ON-SCENE COORDINATOR'S REPORT**  
**FOR**  
**REGIONAL ENTERPRISES SITE**  
**HOPEWELL, PRINCE GEORGE COUNTY, VIRGINIA**  
**CERCLA EMERGENCY RESPONSE/REMOVAL ACTION**  
**AUGUST 11, 1991 - AUGUST 15, 1991**



**UNITED STATES**  
**ENVIRONMENTAL PROTECTION AGENCY**  
**REGION III, PHILADELPHIA, PENNSYLVANIA**

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**REGIONAL ENTERPRISES SITE  
ON-SCENE COORDINATOR'S REPORT**

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REGION III  
CERCLA EMERGENCY RESPONSE/REMOVAL ACTION

Project #277  
FACTS SHEET

SITE: Regional Enterprises Site

SIZE: Approximately 10 acres

LOCATION: 410 Water Street, Hopewell, Prince George County, Virginia

APPROVAL DATE: August 11, 1991 \$50,000  
August 14, 1991 \$100,000  
August 29, 1991 \$150,000

PROJECT DATES: August 11, 1991 through August 15, 1991

DESCRIPTION: On August 9, 1991, VDES informed EPA of a spill of 40,000 gallons of sulfuric acid into 100,000 gallons of rainwater in a berm surrounding a million-gallon tank of waste oil located within 30 feet of the James River. The acid was corroding the base of the oil tank and causing the threat of a catastrophic release of oil into the river. The Potentially Responsible Party was removing the acid but funds were needed to remove the oil from the threatened tank. OSC Koob obtained \$300,000 in CERCLA funds to mitigate the threat of a catastrophic release posed by the situation.

HAZARDOUS MATERIAL: Waste oil, Sulfuric acid

QUANTITIES REMOVED: N/A; RP takeover

OSC: Kevin Koob

REMOVAL CONTRACTOR: Guardian Environmental

DISPOSAL LOCATION: N/A; RP takeover

PROJECT CEILING: \$300,000

PROJECT COST: \$ 54,486 (estimated)

COMMENTS:

  
\_\_\_\_\_  
Kevin Koob, OSC

## FOREWORD

The On-Scene Coordinator (OSC), as mandated by the National Oil and Hazardous Substances Contingency Plan, Section 40 CFR 300.415 (NCP 1990), is required to provide a coordinated federal response capability at the scene of an unplanned or sudden discharge of oil or hazardous substance that poses a potential threat to the public health or the environment. In addition, the provisions of Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), promote a coordinated federal, state and local response to mitigate situations at hazardous waste sites that pose an imminent and substantial threat to public health and/or the environment.

The Regional Enterprises Site presented an imminent and substantial risk of harm to human health and the environment due to the potential for a catastrophic release of waste oil and sulfuric acid into the James River, thereby providing a legal basis for federal response activities. The provisions of the NCP Section 300.415 were implemented by the U.S. Environmental Protection Agency, Region III, Philadelphia, Pennsylvania.

The OSC would like to extend thanks to all of the agencies and individuals who provided valuable assistance and expertise to ensure the successful completion of this cleanup effort.



Kevin Koob  
On-Scene Coordinator  
U.S. EPA, Region III  
Philadelphia, Pennsylvania

## I. INTRODUCTION

### A. Initial Situation

On August 9, 1991, the site property owner reported to the National Response Center (NRC) and the City of Hopewell Fire Department that 40,000 gallons of 97 percent sulfuric acid had discharged into its large diked containment area. Once released, the sulfuric acid traveled downslope via the diked area's connected channels and collected around a 50-year-old carbon steel storage tank containing 1 million gallons of slop oil. The sulfuric acid had mixed with approximately 100,000 gallons of rain water already present within the diked areas to create 140,000 gallons of acid at varying concentrations surrounding the oil tank, creating the potential for its collapse. The edge of the dike surrounding the waste oil tank was located less than 30 feet upslope from the James River.

At the request of the property owner, the Virginia Department of Emergency Services (VDES) and the City of Hopewell Fire Department responded to the incident to give guidance in how to effectively clean up the spill. On August 10, 1991, VDES officials contacted the United States Coast Guard (USCG) to inform them of the activities at the spill due to the closeness of the James River, and also contacted the U.S. Environmental Protection Agency (EPA) Superfund Removal Branch to request its assistance in evaluating the cleanup efforts of the property owner. U.S. EPA On-Scene Coordinator (OSC) Kevin Koob activated the Region III on-call Technical Assistance Team (TAT) to assess the incident and to report their findings to the OSC.

On August 10, at the request of the OSC, the property owner hired a cleanup contractor to assist in the cleanup effort. The contractor mobilized several pumps on site to be used in transferring the acid into a nearby tank, tank trucks and railcars on site. Although there was effort by the property owner to stabilize the situation, recovery of the acid was slow due to the frequent breakdown of the pumps.

Although the rate of recovery of sulfuric acid had increased by August 11, the potential collapse of the 50-year-old storage tank containing slop oil remained a primary concern due to the exposure of the tank to varying concentrations of the acid. The OSC, in dialogue with representatives of the USCG, VDES, and the City of Hopewell Fire Department, agreed that the slop oil should be transferred into another containment vessel without any further delay. The OSC relayed the seriousness of the situation to the property owner, who subsequently agreed to transfer the slop oil into another storage tank on site after its contents were drained and the tank was cleaned.

Due to the uncertainty of whether the property owner could effectively transfer the slop oil, and the potential for a catastrophic spill of slop oil and acid into the James River, the OSC exercised his authority under Delegation of Authority 14-1-A to release \$50,000 on August 11 to mobilize an Emergency Response Cleanup Services (ERCS) contractor on site to be on standby and to requisition a tank barge to be on standby in the event that a storage tank could not be made available for the transfer.

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**B. Site Location**

The Regional Enterprises Site is an active on-shore bulk storage facility occupying approximately ten acres of land located in an industrial area at 410 Water Street, Hopewell, Prince George County, Virginia. The site is bordered on the southeast and northeast by the James River, on the west by a cement facility, and on the south by a residential community. This site slopes towards the James River, which is approximately 30 feet from the edge of the affected dike.

The site consists of eighteen storage tanks, four buildings (an office building, a boiler room, an electric building and a storage building) and two loading racks.

**C. Efforts to Obtain Cleanup by Potential Responsible Parties**

Since this was a time-critical response, Potential Responsible Party (PRP) activities were contingent upon the ability to respond adequately to the threat. Although willing to perform the cleanup, Regional Enterprises did not have the capacity or the resources to mitigate the threat adequately.

The property where the spill occurred was owned by Regional Enterprises, Inc. Their representative, Mr. Farrar, the plant manager, was onsite during most of the cleanup activities. Although he had hired an outside contractor to pump out the spilled acid, it was apparent that he did not have the capacity to address the possibility of the oil tank collapse by emptying the tank in what OSC Koob considered to be a short enough time. Regional's contractor did, however, clean out the tank that was eventually used as containment for the slop oil from the threatened tank.

Due to Regional Enterprise's activities, the work necessary for the ERCs contractor was limited to pumping out the oil tank and providing standby services in case of oil tank rupture.

A second Potential Responsible Party was identified to be General Chemical, the owner of the spilled sulfuric acid that was stored at the Regional Enterprises facility. OSC Koob notified General Chemical of its PRP status on August 12, 1991. General Chemical agreed to accept the recovered acid from Regional Enterprises. All of the acid was sent to its facility located one mile away from the site.

## II. ROSTER OF AGENCIES, ORGANIZATIONS AND INDIVIDUALS

### A. Names and Addresses

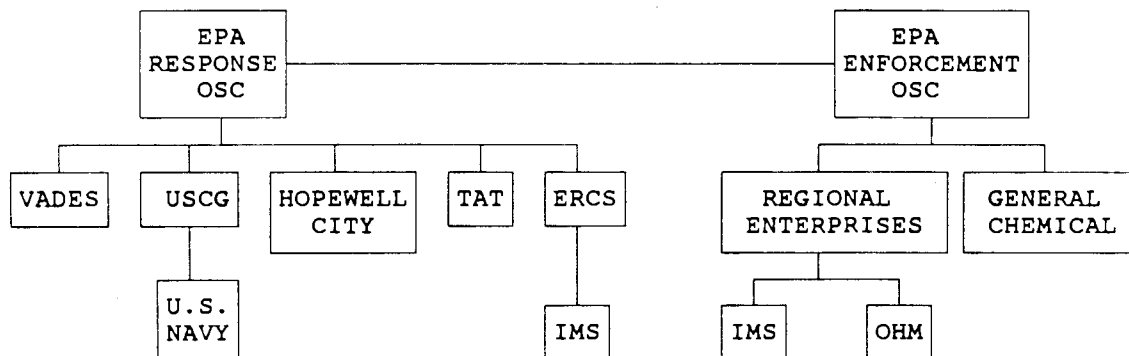
NAME AND ADDRESS	CONTACT	BRIEF DESCRIPTION OF DUTIES
<b>FEDERAL</b>		
U.S. EPA Region III Western Response Section (3HW32) 841 Chestnut Building Philadelphia, PA 19107 (215) 597-9800	Kevin Koob, OSC	Federal On-Scene Coordinator; coordinated site activities to the conclusion of the project.
United States Coast Guard USCG Marine Safety Office 200 Granby Mall Norfolk, VA 23510-1888 (804) 441-3314	Edward F. Murphy, Commander  Jim Klinefelter, BMC	Mobilized to site at standby status in the event of an oil release into the James River. Provided support throughout response.
<b>STATE</b>		
Virginia Department of Emergency Services 310 Turner Road Richmond, VA 23225 (804) 674-2400	R. E. Clark, Jr.  Richard L. Parker  Scott C. Gorten  James D. Holloway	Conducted initial site assessment. Participated in entire response.
Virginia Department of Emergency Services Public Information 310 Turner Road Richmond, VA 23225 (804) 674-2400	Janet L. Clements	Provided assistance and support when dealing with public and press questions.
Virginia Water Control Board Piedmont Regional Office Richmond, VA 23220	Stephen G. Morris	Worked in a support role throughout site activities.
<b>LOCAL</b>		
City of Hopewell Emergency Services Municipal Building 2300 N. Main Street Hopewell, VA 23220 (804) 541-2298	Bob Brown, Safety/Risk Manager	Assisted in initial site assessment and participated in entire response. Provided support to OSC.

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NAME AND ADDRESS	CONTACT	BRIEF DESCRIPTION OF DUTIES
City of Hopewell 300 N. Main Street Hopewell, VA 23860 (804) 541-2245	Ellen S. Psoivach, Assistant City Manager	Provided personnel and facilities for support during removal action.
City of Hopewell Fire Prevention Bureau 200 S. Hopewell Street Hopewell, VA 23960 (804) 541-2290	James R. Kahns, Fire Marshall	Worked in support role throughout emergency removal activities.
CONTRACTORS & SUBCONTRACTORS		
Roy F. Weston, Inc. Technical Assistance Team 5 Underwood Court Delran, NJ 08075 (609) 461-4003	Mona F. Khalil  Thomas R. Barsley  Christine Van Gorder	Provided OSC with technical assistance, photographic and site documentation, and air monitoring.
Guardian Environmental Services, Inc. Bear, DE	Jack Wilson, Response Manager	ERCS prime contractor; provided personnel and equipment necessary.
Industrial Marine Services, Inc. 1301 Marsh Street P.O. Box 1779 Norfolk, VA 23501-1779 (804) 543-5718	John M. Parker	Subcontractor; provided manpower and equipment to establish the centrifugal pump in the slop oil tank.
POTENTIAL RESPONSIBLE PARTY		
Regional Enterprises, Inc. 410 Water Street Hopewell, VA 23860 (804) 748-3666	W. Gary Farrar, Plant Manager	Potential Responsible Party.
General Chemical Corp. Box 759 East Plant Street Hopewell, VA 23860 (804) 541-0261	William D. Morrisette  Carl F. Meak	Potential Responsible Party.
OHM Corporation 1508 Fauver Road Glen Allen, VA 23060 (804) 262-0079	Carl W. Duffey, Site Supervisor  Stanley I. Rhoad, Emergency Response Coordinator	PRP Prime Contractor; participated in acid removal.
Industrial Marine Service, Inc. 1301 Marsh Street P.O. Box 1779 Norfolk, VA 23501-1779 (804) 543-5718	John M. Parker	PRP secondary contractor; participated in boom placement.

## B. Organization of the Response



## C. Glossary of Abbreviations and Definitions

CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
EPA	U.S. Environmental Protection Agency
ERCS	Emergency Response Cleanup Services
GPM	Gallons per minutes
IMS	Industrial Marine Service, Inc.; EPA and PRP contractor
NCP	National Oil and hazardous Substances Contingency Plan
NRC	National Response Center
OHM	O.H. Materials, Inc.
OSC	U.S. EPA On-Scene Coordinator
PCB	Polychlorinated biphenyl
POLREP	Pollution Report
PPM	Parts per million - measure for quantifying levels of contamination
PRP	Potential Responsible Party
QA/QC	Quality Assurance/Quality Control - means of ensuring accuracy
RCRA	Resource Conservation and Recovery Act
RRC	U.S. EPA Region III, Regional Response Center
SARA	Superfund Amendments and Reauthorization Act of 1986
TAT	Roy F. Weston, Inc., Technical Assistance Team; EPA contractor
USCG	United States Coast Guard
VDES	Virginia Department of Emergency Services

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**III. NARRATIVE OF EVENTS**

The Regional Enterprises Site was a chemical storage facility consisting of eighteen storage tanks on approximately 10 acres of land. Approximately 40,000 gallons of 97 percent sulfuric acid spilled into approximately 100,000 gallons of collected rainwater. This mix then flowed within bermed containment into an adjoining dike surrounding a 50-year-old one-million-gallon oil storage tank, where it was corroding the base of the tank. The edge of this berm was located within 30 feet of the James River. The PRP, Regional Enterprises, Inc., attempted to clean up the spill, but contacted local officials for support. On August 10, 1991, VDES contacted EPA asking for assistance in monitoring activities on site.

The site was referred to OSC Kevin Koob, who tasked TAT to respond to the site on August 10 to monitor progress and report information to him. OSC Koob then responded to the scene the following day. On August 11, 1991, due to the obvious erosion taking place at the base of the oil storage tank, and slow progress in cleaning the acid spill because of frequent pump failure, the OSC exercised his authority under Delegation of Authority 14-1-A to release \$50,000 to mobilize ERCS on site to be on standby and to requisition a tank barge as an alternate oil storage structure.

The PRP continued to address the acid spill and also cleaned out an upgradient tank to provide a receptacle for the oil in the threatened tank. OSC Koob mobilized ERCS to pump out the oil storage tank into the awaiting emptied tank.

By August 13, 1991, the level of oil in the threatened tank was below 2 feet. The majority of the spilled acid around the oil storage tank had been removed. OSC Koob determined that the threat of release of materials into the James River no longer existed. OSC Koob officially deactivated the site.

OSC Koob and TAT remained onsite to monitor the final disposal of the acid. Several leaks were discovered in the rail tanker cars into which the weak acid had been pumped. The leaked acid was neutralized, and the cars were moved to a location where a leak would flow directly into a bermed area. The acid was then transferred into other tank cars to be moved to General Chemical, the original owner of the acid, which had its facility less than 1 mile away.

On August 14, 1991, OSC Koob arranged for a permit waiver so that if there were too many impurities in the acid, rendering it unusable, General Chemical would be allowed to ship the acid back to Regional Enterprises without violating any RCRA regulations. Also on August 14, 1991, Assistant Regional Director Maslany verbally approved additional funding of \$100,000 of CERCLA funds for the Removal Action at this site.

On August 15, 1991, six tank cars of acid were transported to General Chemical. PRP Contractors began neutralizing the soil in the acid spill area. OSC Koob, in conjunction with the City of Hopewell Fire Marshal, concluded that the site was secure.

#### IV. RESOURCES COMMITTED

##### A. Initial Funding Request

On August 11, 1991, under Delegation of Authority 14-1-A, OSC Kevin Koob obtained \$50,000 of CERCLA funds to mitigate the threat to human health and the environment posed by the potential catastrophic release of waste oil and sulfuric acid into the James River.

##### B. Additional Funding

Additional funds in the amount of \$100,000 on August 14, 1991, and \$150,000 on August 29, 1991, were approved for use in addressing the threat of catastrophic release posed at this site.

##### C. Estimated Total Cost Summary

Extramural	
ERCS Prime Contractor	\$31,983
TAT	12,497
Extramural Subtotal	\$44,480
Intramural	
EPA Direct	\$ 3,175
EPA Indirect	6,831
Intramural Subtotal	\$10,006
Estimated Total Project Cost	\$54,486
Project Ceiling: \$300,000	
% PROJECT CEILING EXPENDED = 18%	

#### V. EFFECTIVENESS OF THE REMOVAL

##### A. Activities of the Various Agencies

###### 1. Potential Responsible Party

Regional Enterprises, the site owner and Potentially Responsible Party (PRP), participated in all aspects of the removal action. Once the leak was discovered, Regional personnel attempted to clean the spill. At OSC Koob's insistence, Regional hired a contractor to perform the acid cleanup. This contractor also emptied and cleaned a tank into which the slop oil was transferred.

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A second PRP, General Chemical, was the owner of the spilled acid. General Chemical accepted the recovered acid for storage, treatment, or reuse at their facility located one mile away from the spill site.

## **2. Federal Agencies**

Kevin Koob, EPA Region III, Philadelphia, PA, officially served as the On-Scene Coordinator for this project and was responsible for coordination with state and local authorities and the direction of contractors to ultimately eliminate the threat.

The United States Coast Guard (USCG), in coordination with the United States Navy, provided personnel and resources, such as booms and skimmer boats, to be on scene in the event of an emergency release of oil or other chemicals into the James River. The USCG participated in all actions during the site activities, helping to monitor cleanup in all phases of this response, and participating in decision-making.

## **3. State and Local Agencies**

VDES notified EPA of the need for federal monitoring at this spill. VDES also provided the necessary equipment and personnel to aid in the assessment and monitoring of the situation around the clock. VDES coordinated closely with OSC Koob to insure smooth progress during all removal activities.

City of Hopewell officials aided in the response by providing easy access to facilities needed by response personnel, and also providing extra personnel for site security and fire watch.

## **4. EPA Contractors**

The Roy F. Weston, Inc., Technical Assistance Team (TAT) was responsible for monitoring the PRP cleanup prior to EPA Removal Activation. During EPA removal operations, TAT was responsible for providing the OSC with technical and administrative support that included contractor monitoring, photographic and written site documentation, and site safety.

Guardian Environmental Services, Inc., of Bear, Delaware, was the prime contractor under the Emergency Response Cleanup Services mechanism. Guardian was responsible for performing the actual removal activities and providing the necessary manpower, equipment and materials to safely remove the slop oil from the threatened tank.

## **VI. CHRONOLOGY OF EVENTS**

**August 10, 1991, Saturday** - After receiving a call from VDES requesting assistance in monitoring the owner of the property's response to the spill, OSC Koob tasked the Region III Technical Assistance Team to respond to the scene and report observations. OSC Koob also spoke with Mr. Farrar, the manager of the Regional Enterprises facility, and requested that he hire a contractor to aid in the recovery of the acid because VDES reported that the facility's progress in the cleanup was not adequate to address the threat at the site.

TAT, in constant communication with the OSC, arrived onsite to begin documentation of the progress of the cleanup. Already onsite were representatives from USCG, VDES, and City of Hopewell. TAT was briefed upon arrival at the site.

Obvious corrosion, evidenced by a rapidly bubbling reaction, was noted to be occurring at the sides of the carbon-steel oil tank and on piping fixtures where acid was in constant contact with the metal. Tests performed on samples of the material in the berm revealed that the concentration of the sulfuric acid ranged from approximately 90 to 30 percent. The owner of the facility was continuing to attempt to pump the material out of the berm with pumps he had borrowed from local facilities. Several pumps had already failed, but four stainless steel pumps were running at approximately 400 gallons per minute (gpm). Mr. Farrar, the plant manager, had contracted with OHM Corporation to clean up the spill. OHM was onsite and was mobilizing four polypropylene 3-inch diaphragm pumps to be onsite by the next morning.

Meanwhile OSC Koob contacted the USCG National Strike Team to request that extra polypropylene pumps be put on standby in the event that the available pumps all fail.

**August 11, 1991, Sunday** - The additional pumps from OHM Corporation arrived onsite, and pumping operations began. After 9 hours of operation, with constant pump failures and repairs, OHM recovered approximately 10,000 gallons of weak acid and transferred it into waiting railcars. Acid continued to react with the base of the oil tank. TAT estimated that at this point approximately 20,000 gallons of acid remained around the oil tank, and 60,000 gallons remained around the leaking sulfuric acid tank. The connection between the two bermed areas had been cut off.

The OSC, in concurrence with the state and local officials, requested that the PRP, instead of only addressing the spilled acid, begin to pump out the waste oil from the threatened tank. The PRP voiced a preference to first removing the acid from around the tank, and then assessing the integrity of the oil tank. However, the PRP stated that he was willing, although hesitant, to begin pumping the oil out of the tank into a tank upgradient from the spilled acid. The upgradient tank had to be emptied and cleaned out first because it contained caustic soda.

The PRP performed ultrasonic testing on the oil storage tank to determine its integrity. This test revealed no weakening of the tank and no decrease in the thickness of the metal plates.

Due to the uncertainty at this point of whether the property owner could effectively transfer the oil out of the tank, and the potential for a catastrophic spill of slop oil and acid if the transfer was not done, the OSC exercised his authority under Delegation of Authority 14-1-A to release \$50,000 to mobilize ERCS on site to be on standby and to requisition a tank barge in the event that a storage tank could not be made available for the transfer.

OSC Koob immediately arranged for ERCS to contract a 30,000-barrel barge to be brought to site as a contingency. Guardian Environmental, the ERCS contractor, was expected to be on site the next morning. All federal work, however, was on hold, contingent upon the PRP's producing a plan for the transfer of oil out of the threatened tank, or a viable alternative.

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The PRP immediately began making arrangements to empty the upgradient tank. OSC Koob stressed that the upgradient tank would need to be inspected by a professional agency to demonstrate the structural integrity of the tank.

By 2000 hours, the majority of the acid in the berm surrounding the oil tank was pumped off. PRP contractors began applying soda ash and lime to the shallower areas of the remaining spilled acid in order to neutralize it. However, the integrity of the oil tank which was exposed to the acid was still in question.

The PRP began pumping the caustic soda out of the upgradient tank. Mr. Farrar estimated that the emptying and cleanup of the caustic soda tank should take approximately five hours, and that the tank should be ready to receive slop oil by 0300 hours the next morning.

The PRP informed OSC Koob that oil transfer operations and acid removal operations were to continue simultaneously. A representative of the City of Hopewell inspected the oil transfer lines before the transfer took place. The PRP contractors began placement of the transfer lines necessary for the oil removal.

**August 12, 1991, Monday** - During the night, the oil tank was found to be leaking around several rivets in its base. Only water was leaking at the time because the bottom few feet of the tank contained a water layer. Due to this development, the USCG and the OSC accelerated preparedness for the event of an oil spill. A plan was developed for deploying the boom in the James River. TAT performed a bench scale test to determine if there would be a reaction when the slop oil mixed with the caustic soda. No reaction or heat generation was observed. The oil was found to be combustible but not flammable.

The PRP contractor hammered the leaking rivets back into place to control the leaking. Caustic soda removal from the upgradient tank and oil transfer from the base of the slop oil tank began.

During the night, Industrial Marine Services, a PRP contractor, installed a boom in the James River adjacent to the facility. OSC Koob determined that if there was any sign of further deterioration of the oil tank, EPA would take over the removal activities.

A second leak was found at the base of the oil tank. OSC Koob determined that this indicated further deterioration of the oil tank, and the Federal Response was initiated. ERCS began making arrangements for a second oil transfer pump in order to speed up the transfer process.

At 1000 hours, the barge arrived at the site and docked at the pier immediately adjacent to the site. Standby lines were run from the oil tank to the barge. All transfer lines to the caustic soda tank were laid out and the additional pump transfer was awaiting the arrival of a crane hoist to position the centrifugal pump in the top of the oil tank.

At 1200 hours, oil transfer operations with two pumps began. The approximate rate of pumping was 3,000 gallons per minute. By 2300 hours, approximately 650,000 gallons of oil had been removed from the threatened tank. OSC Koob determined that because the level of the oil in

the tank had been lowered, the threat of catastrophic release into the James River had been averted. ERCS released the barge.

Acid removal continued. By the end of the day, PRP contractors had recovered approximately 40,000 gallons of the acid. This brought the total recovered to 90,000 gallons so far.

**August 13, 1991, Tuesday** - By 0800, only two feet of oil remained in the oil tank. OSC Koob determined that the threat of release into the James River was averted. The Coast Guard and U.S. Navy departed from the site.

Acid pumping halted due to problems with the pumps being used. Guardian remained on site to assess the problem with the acid pumps.

Mr. Farrar requested that OSC Koob review and approve his plan for the neutralization of the soil located in the dikes around the leaky acid tank and around the oil tank. OSC Koob referred Mr. Farrar to the Virginia Waste Management Division.

OSC Koob held a press briefing to keep the local citizens informed of the progress at the site.

Guardian was demobilized at 1230 hours. The OSC met with Mr. Farrar and informed him that once oil pumping operation ceased and the transfer lines were cleaned, the site would be deactivated.

At 1620 hours, OSC Koob deactivated the site. The USCG Strike Team returned to their central office.

**August 14, 1991, Wednesday** - During the previous evening, one of the tanker cars with weak acid in it was found to be leaking. Approximately 2,000 gallons leaked out of the tank. This was neutralized with soda ash and lime. The tank car was moved adjacent to a bermed area and its contents were released into the berm then neutralized with soda ash and lime. The OSC, TAT, USCG and VDES then inspected the other tank rail cars and found that two other tank cars showed signs of leaking. These tankers were then relocated to near the diked area with a hose running from the tankers to the berm, where they could be emptied in a controlled fashion if they began leaking.

OSC Koob granted a waiver for the transportation of the acid to the General Chemical facility located approximately 1 mile away. If the sulfuric acid has too many impurities, General Chemical will be allowed to ship the material back to Regional Enterprises without violating any RCRA regulations.

At 1500 hours, Assistant Regional Director Tom Maslany gave verbal approval of an additional \$100,000 for a Removal Action at this site.

**August 15, 1991, Thursday** - PRP contractors transferred the weak acid from the leaky tank cars to tank cars arranged for by General Chemical. Six tankers of acid were dispatched to General Chemical.

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PRP contractors began neutralizing the soil surrounding the tanks per a plan approved by the Virginia Waste Management Division.

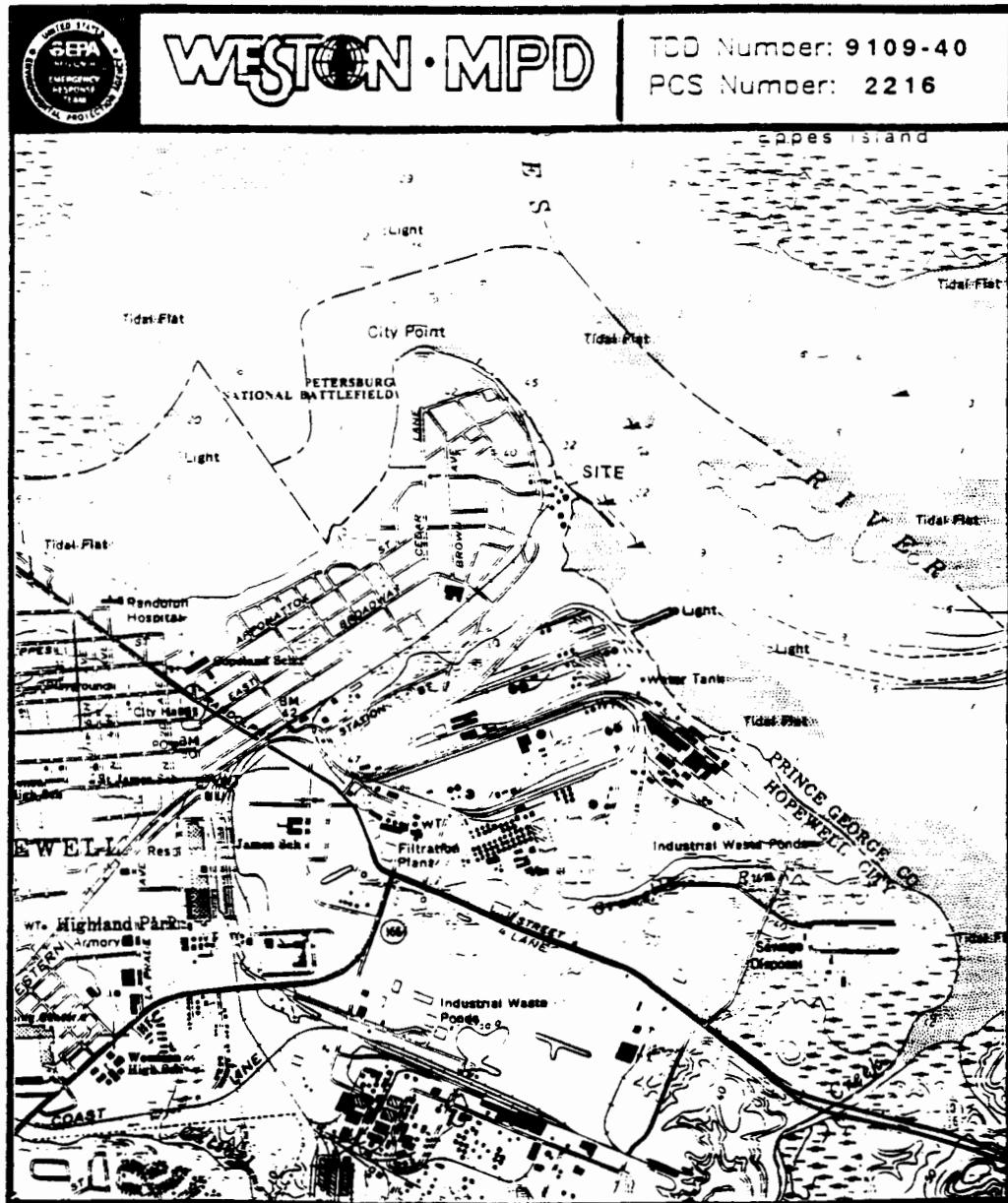
OSC Koob, TAT and the City of Hopewell Fire Marshal assessed the site and concluded that the site was secure. All federal involvement was concluded.

**VII. PROBLEMS ENCOUNTERED AND RECOMMENDATIONS**

No significant problems were encountered during federal cleanup activities at this site. Operations were conducted smoothly due to the close coordination of efforts by all parties involved in the project.

## VIII. APPENDICES

### A. Site Location Map and Site Sketch

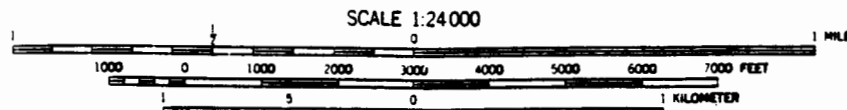


### REGIONAL ENTERPRISES SITE

HOPEWELL CITY, VIRGINIA

8°  
1.42 MILSH  
1.24°  
25 MILS

GRID AND 1981 MAGNETIC NORTH  
ALIGNMENT AT CENTER OF SHEET



HOPEWELL QUADRANGLE  
VIRGINIA  
7.5 MINUTE SERIES (TOPOGRAPHIC)





B. Funding Documentation

August 11, 1991

Special Bulletin A  
Regional Enterprises Inc. Site  
410 Water Street  
Hopewell, Prince George County, VA 23860

DATE: August 11, 1991

FROM: Kevin Koob, OSC, EPA Region III  
Western Response Section (3HW32)

TO: Regional Response Center  
U.S. EPA Region III

THRU: Abraham Ferdas, Associate Director  
Office of Superfund (3HW02)

THRU: Dennis Carney, Chief  
Superfund Removal Branch (3HW30)

THRU: Charles L. Kleeman, Chief  
Western Response Section (3HW32)

I. INTRODUCTION

Notification through the Regional Response Center in accordance with the National Contingency Plan has identified an immediate and significant risk of harm to human health and the environment posed by the spill of 97% sulfuric acid into a diked area around a one million gallon storage tank containing crude waste oil.

The threat posed at this site is the potential that the tank containing the crude waste oil is not structurally sound due to the corrosion of the tank by the sulfuric acid. The failure of the tank could potentially release 1,000,000 gallons of crude waste oil into James River, approximately 30 feet from the crude waste oil storage tank. A residential area is located within 1/4 mile of the site, and an operating business is located within 500 feet of the tank.

Section 104 of CERCLA calls for the initiation of immediate removal where there is an imminent threat of release of a hazardous substance which may present an immediate and substantial danger to the public health, welfare of the environment.

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The Delegation of Authority 14-1-A (4/8/86) authorizes the On-Scene Coordinator (OSC) to approve CERCLA Removals with a total cost of less than \$50,000. The OSC, therefore, approved the use of CERCLA funds at this site to mitigate the threat to human health and the environment. Mitigation shall include mobilizing site personnel and providing a tank barge to be on standby in the event of a leak. In addition, to secure and remove the crude waste oil from the tank.

**II. BACKGROUND**

The initial site investigation was performed at approximately 1340 hours on August 8, 1991 by the City of Hopewell Fire Department in response to the report of a spill by the Property Owner, Gary Farrar. Mr. Farrar notified the National Response Center and City of Hopewell Fire Department that approximately 40,000 gallons of 97% sulfuric acid had spilled into the tank's diked containment area. In addition, the discharged sulfuric acid escaped in part through its dike via a submerged hydraulic connection into the adjacent containment area servicing a one million gallon storage tank containing crude waste oil. The 40,000 gallons of sulfuric acid mixed with in varying concentrations, approximately 100,000 gallons of rain water, which had collected from a previous rain storm. The Virginia Department of Emergency Service (VADES) was notified via the Regional Response Center and were subsequently asked to respond to the incident by the City of Hopewell Fire Department and Regional Enterprise officials to provide assistance. VADES officials arrived on site to assess the situation and then contacted the MSO Hampton Roads to notify the USCG of the spill, due to the close proximity of James River.

On August 10, 1991, at 1100 hours, VADES official contacted the EPA Emergency Response Section and request EPA's assistance in evaluating the cleanup efforts of Regional Enterprise officials. At 1400 hours, OSC Kevin Koob requested the assistance of EPA's Technical Assistance Team (TAT) on-call emergency response personnel to assess the status of the cleanup efforts and to relay such information back to the OSC.

At 2115, upon arrival at the scene, TAT met with Robert Clark of VADES. Mr. Clark noted that Regional Enterprises had hired a contractor to clean up the acid spill. Several pumps which had been brought on site to transfer the sulfuric acid into a

neighboring tank and railcars on site broke down within hours due to the corrosivity and viscosity of the acid. Pumping operations continued throughout the night and at approximately 0600 hours on August 11, 1991, approximately 10,000 gallons of the sulfuric acid had been recovered.

Although, the cleanup effort had increased by August 11, 1991, the potential collapse of the crude oil storage tank continued to be a primary concern, due to the time frame for which the 50 year old tank was exposed to the sulfuric acid. Site personnel (EPA, USCG, VADES, and City of Hopewell representatives) concurred that the crude waste oil had to be transferred into another storage vessel without any further delay to prevent a potential catastrophic spill into the James River and the remaining diked areas which still contained the spilled sulfuric acid. OSC Koob relayed the urgency of the situation to Mr. Farrar which he then agreed to transfer the crude waste oil into a storage tank on site, after an available storage tank on site was cleaned and rinsed.

Due to the slow response of the cleanup effort being undertaken by the property owner and the potential failure of the crude waste oil storage tank OSC Kevin Koob believed the site posed an immediate threat to the public health, welfare, and the environment.

### III. THREAT

The immediate threat at the site is a potential leak developing in the crude waste oil storage tank and the oil reacting with the sulfuric acid to potentially cause an explosion and fire hazard due to the intense heat of reaction between a highly corrosive material and a organic material. Secondly, a complete tank failure would release 1,000,000 gallons of crude waste oil into the James River, causing a threat to marine life in the river. Due to the uncertainty of the tanks integrity and slow responsiveness of the property owner, the OSC decided that in the best interest of the public health and the environment to assist in the cleanup effort.

### IV. SCOPE OF WORK

The scope of work proposed for the implementation of the emergency \$50,000 appropriation includes: mobilization of cleanup

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crew and equipment, acquisition of a tank barge to hold one million gallons of crude waste oil, and conditions pending transferring of oil into the barge and/or available storage tank on site.

The authorized budget for this removal is:

EPA	\$ 7,500
TAT	\$ 7,500
ERCS	\$35,000
TOTAL	\$50,000

V. On-Scene Coordinator's Action

On August 10, 1991, OSC Koob requested the assistance of EPA's Technical Assistance Team (TAT) to respond to a sulfuric acid spill and to inform the OSC on the present site conditions and the cleanup efforts by the property owner at Regional Enterprise Inc., 410 Water Street, Hopewell, Prince George County, Virginia.

After considering the slow responsiveness of the cleanup effort by the property owner and the potential threat of the crude waste oil storage tank leaking, after being exposed to varying concentrations of sulfuric acid, the OSC determined that the site meets the criteria for CERCLA Emergency Removal Activities. The OSC activated the \$50,000 emergency funding for the site at 1600 hours on August 11, 1991. The estimated cost for this emergency action is \$50,000.

Kevin Koob, OSC  
U. S. EPA Region III  
Philadelphia, Pennsylvania

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region III  
841 Chestnut Building  
Philadelphia, Pennsylvania 19107

AUG 30 1991

SUBJECT: Approval of a Ceiling Increase for a Removal Action  
Regional Enterprises Site  
Hopewell, Prince George County, Virginia

FROM: Edwin B. Erickson *E. B. Erickson*  
Regional Administrator (3RA00)

TO: Donald R. Clay, Assistant Administrator  
Office of Solid Waste and Emergency Response (OS-100)

THRU: Henry Longest II, Director  
Office of Emergency and Remedial Response (OS-200)

ATTN: Stephen D. Luftig, Director  
Emergency Response Division (OS-210)

ISSUE

The attached CERCLA Ceiling Increase pertains to the Regional Enterprises Site, an active on-shore bulk storage plant located in Hopewell, Prince George County, Virginia. An emergency response by Region III and personnel from the United States Coast Guard, the Virginia Department of Emergency Services, and the City of Hopewell Fire Department has identified a threat to the public health and the environment due to the release of uncontrolled hazardous substances and materials onsite. The presence of these materials poses a potential fire and explosion hazard to the surrounding community. In addition, a 50-year-old storage tank containing one million gallons of crude waste oil has been exposed to a highly corrosive material and is beginning to show signs of failure, posing the threat of a catastrophic release of contaminants into the nearby James River. The On-Scene Coordinator (OSC) has already used his authority under Delegation of Authority 14-1-A to obligate \$50,000 to begin removing the hazardous materials from the site. On August 14, 1991, Acting Regional Administrator Thomas Maslany verbally approved the release of \$100,000 in additional funds.

Because conditions at the Regional Enterprises Site meet removal criteria set forth in the National Contingency Plan (NCP) Section 300.415 pursuant to Delegation of Authority 14-1-A giving the Regional Administrator authority to approve CERCLA Removal Actions with a total cost of less than \$2 million and completion

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within twelve months, Region III has approved a ceiling increase to continue the Removal Action and to mitigate the threat to public health and the environment. The revised project ceiling is \$250,000, of which approximately \$120,000 are Regional Allowance Costs.

Attachment: Request for Ceiling Increase



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region III  
841 Chestnut Building  
Philadelphia, Pennsylvania 19107

AUG 30 1991

SUBJECT: Request for a Ceiling Increase for a Removal Action  
Regional Enterprises Site  
Hopewell, Prince George County, Virginia

FROM: Kevin Koob, On-Scene Coordinator  
Western Response Section (3HW32) *Koob*

TO: Edwin B. Erickson  
Regional Administrator (3RA00)

THRU: Abraham Ferdas, Director  
Office of Superfund (3HW02) *Abraham Ferdas*

I. PURPOSE

An emergency response performed in accordance with the National Contingency Plan (NCP), 40 CFR Part 300, by the On-Scene Coordinator (OSC) and personnel from the United States Coast Guard (USCG), the Virginia Department of Emergency Services, and the City of Hopewell Fire Department has identified a threat to public health and the environment due to the presence of uncontrolled hazardous substances and materials and the threat of catastrophic release of hazardous materials at the Regional Enterprises Site, located at 410 Water Street, Hopewell, Prince George County, Virginia. The OSC has determined that the site meets the criteria for initiating a Removal Action under Section 300.415 of the NCP. On August 11, 1991, the OSC exercised his authority under Delegation of Authority 14-1-A to release \$50,000 to begin mobilization of personnel and equipment to the site. On August 14, 1991, Acting Regional Administrator Thomas Maslany verbally approved the release of \$100,000 in additional funds to mitigate conditions at the site. The OSC has determined that additional funds in the amount of \$150,000 are required to continue the current removal actions.

II. SITE CONDITIONS AND BACKGROUND

A. Site Description

The Regional Enterprises Site is an active bulk storage facility occupying ten acres of land located in an industrial section of Hopewell, Prince George County, Virginia. The site is bordered on the southeast and northeast by the James River, on the west by a cement business, and on the south by a residential community.

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The site comprises 13 storage tanks, 4 buildings (an office building, a boiler room, an electric building and a storage building), and 2 loading racks. The storage tanks vary in capacity from 10,700 to 1,750,000 gallons. Two diked areas, one containing 15 tanks, the other containing 3 tanks, provide secondary containment. The secondary containment capacity is increased by interconnecting channels within the diked areas. The larger of the two diked areas is estimated to hold 1.75 million gallons, according to the facility. This area slopes towards the James River, which is approximately 30 feet from the edge of the dike.

**B. Site Background**

On August 9, 1991, the site property owner reported to the National Response Center and the City of Hopewell Fire Department that 40,000 gallons with a 97 percent concentration of sulfuric acid had discharged into the large diked containment area. Once released, the sulfuric acid traveled downslope via the channels and collected around a 50-year-old carbon steel storage tank containing one million gallons of waste crude oil. The sulfuric acid mixed with approximately 100,000 gallons of rain water already present around the crude oil tank to create 140,000 gallons of acid of varying concentration.

The Virginia Department of Emergency Services (VADES) and the City of Hopewell Fire Department responded to the incident at the request of the property owner to offer guidance on how to clean up the spill. On August 10, 1991, VADES officials called the EPA Region III Superfund Removal Branch and requested assistance in evaluating the cleanup effort by the property owner. EPA On-Scene Coordinator (OSC) Koob activated the Region III Technical Assistance Team (TAT) to assess the situation. The potential collapse of the crude oil storage tank from corrosion caused by the sulfuric acid was of particular concern.

At the OSC's request, Gary Farrar, president of Regional Enterprises Inc., the responsible party (RP), hired a contractor to clean up the spill. The contractor mobilized several pumps to the site on August 10 to transfer the spilled acid into a neighboring tank and into railcars onsite. The recovery was slow on this date due to frequent breakdown of the pumps.

The rate of recovery by the RP's contractor had increased by August 11, 1991; however, the potential collapse of the crude oil storage tank continued to be of primary concern due to the continued exposure of the 50-year-old tank to sulfuric acid solutions surrounding it in the diked area. The OSC and representatives from the USCG, VADES, and the City of Hopewell

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agreed that the crude oil bottoms had to be transferred into another storage vessel without further delay to prevent a potentially catastrophic spill of oil into the containment area and the James River. The OSC relayed the urgency of the situation to the RP, who agreed to transfer the crude oil into another storage tank onsite, after the available storage tank onsite was cleaned and rinsed.

The OSC, concerned about the potential for a catastrophic spill of mixed oil and acid, exercised his authority under Delegation of Authority 14-1-A to release \$50,000 on August 11 to mobilize EPA's Emergency Response Contractor (ERC) onsite to be on standby and to requisition a tank barge in the event a storage tank could not be made available for the transfer.

Later on August 11, 1991, the OSC and USCG personnel identified a leak at the base of the crude oil storage tank during an inspection of the tank. A rivet in the tank had corroded, and the water layer in the bottom of the tank was discharging into the diked area. The OSC relayed the information to the RP and stressed the urgency to accelerate cleanup operations and the transfer of oil to the available tank onsite.

On August 12, 1991, at 0820 hours, additional leaks were detected in the crude oil tank. The OSC determined that the accelerated degradation of the tank and the threat of a catastrophic spill posed an imminent and substantial threat and initiated a Federal cleanup action.

C. Quantities and Types of Substances Present

Approximately 140,000 gallons of sulfuric acid in varying concentrations is present in a diked area containing a crude oil tank containing 1,090,844 gallons of slop oil; a failed sulfuric acid tank; and an empty tank. The oil tank has been exposed for over 120 hours to the diluted sulfuric acid, which is extremely corrosive. Sulfuric acid is listed both as a hazardous substance and as an extremely hazardous substance pursuant to Section 101 (14) of CERCLA. In diluted concentrations, sulfuric acid corrodes steel at an accelerated pace.

D. National Priorities List Status

The site has not yet been evaluated for placement on the National Priorities List (NPL). The OSC has forwarded information on the site to the EPA Region III Site Assessment Section. A remedial preliminary assessment has not yet been performed, but may be expected in the future.

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E. State and Local Authorities' Roles

VADES and the City of Hopewell Fire Department responded to the incident on August 9, 1991. The agencies have provided the OSC with background information concerning the site. The OSC continues to coordinate site activities with the State and local officials.

III. THREATS TO THE PUBLIC HEALTH AND WELFARE OR THE ENVIRONMENT

Section 400.415 of the NCP lists the factors to be considered in determining the appropriateness of a Removal Action. Paragraphs (b)(2)(i), (ii), (iii), (v), (vi), and (vii) of Section 300.415 directly apply as follows to the conditions at the Regional Enterprises, Inc. Site.

300.415 (b)(2)(i) "Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants"

Employees and site personnel are potentially at risk from exposure to toxic and corrosive sulfuric acid vapors. Inhalation of vapors can cause severe lung irritation, resulting in permanent damage to lungs and other major organs. Because of its caustic properties, sulfuric acid can also permanently damage skin and eye tissue.

Should the crude oil tank experience a sudden, catastrophic failure, violent discharge of oil would occur. Such a release would put all personnel onsite at risk of injury and direct exposure. The force of the discharge would cause an oil/acid mixture to enter the James River, impacting marine life and potentially affecting the food chain in the river for generations to come.

300.415 (b)(2)(ii) "Actual or potential contamination of drinking water supplies or sensitive ecosystems"

Sulfuric acid solutions can permanently damage water treatment systems. Should the acid enter the James River, it could disable the drinking water supply for thousands of residents for an unknown period of time. In addition, a major release of oil or an oil/acid mixture into the James could adversely affect the tidal flats and marshlands in the vicinity of the site.

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300.415 (b)(2)(iii) "Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release"

Sulfuric acid has the ability to corrode carbon steel. The steel storage tank onsite containing one million gallons of crude oil bottoms has been exposed to sulfuric acid since the release on August 9, 1991, of 40,000 gallons of 97 percent sulfuric acid. The oil storage tank has begun to leak around rivets at its base from corrosion by the acid. Conditions require immediate action to stabilize the oil storage tank.

300.415 (b)(2)(v) "Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released"

The site is in an area that is subject to thunderstorms accompanied by heavy rainfall during this time of year. Approximately 100,000 gallons of rain water had already collected in the diked area prior to the release of sulfuric acid. Additional heavy precipitation could cause the sulfuric acid to breach the containment walls and enter the James River. Because sulfuric acid dissolves in water, any acid entering the river could not be contained by normal physical methods, such as booms or sorbent materials. Special wastewater treatment methods would be required. Such treatment methods are costly and may permanently damage local wastewater treatment facilities.

Of particular concern is the fact that sulfuric acid in all concentrations reacts violently with water. Rainfall into the acid runoff may create strong chemical reactions that would be difficult to control. In addition, the heat of the reaction between the acid and water contributes to the corrosion of the crude oil storage tank.

300.415- (b)(2)(vi) "Threat of fire or explosion"

If the rate of release of crude oil into the diked area increases, an uncontrollable fire could result from the intense heat generated by the reaction of the oil and the sulfuric acid. Extinguishing the fire would be difficult due to the properties of the materials involved.

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300.415 (b)(2)(vii) "The availability of other appropriate Federal or State response mechanisms to respond to the release"

The Virginia Department of Emergency Services has asked the Environmental Protection Agency (EPA) to assist in mitigating the hazards onsite.

#### IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health and welfare, or the environment.

#### V. PROPOSED ACTION AND COSTS

##### A. Proposed Actions

The actions proposed for the Regional Enterprises Site are designed to eliminate the imminent threat posed by the site. The proposed actions are as follows:

- . Mobilize required personnel and necessary equipment onsite and acquire a tank barge to hold one million gallons of oil.
- . Assist in the setup of pumping equipment to transfer the oil.
- . Oversee pumping operations.
- . Assure proper disposal of hazardous materials.

At this time, it is estimated that the entire project will run less than the statutory 12-month time limit for Removal Actions, barring any unforeseen circumstances or disposal restrictions.

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B. Estimated Costs

	<u>Current Ceiling</u>	<u>Costs To Date</u>	<u>Proposed Ceiling</u>
<u>Extramural Costs</u>			
Regional Allowance Costs			
ERCS	\$ 70,000	\$ 40,000	\$120,000
Other Costs not Funded from the Regional Allowance			
TAT	20,500	7,000	40,000
USCG	7,000	1,869	12,500
	-----	-----	-----
Subtotal Extramural	\$ 98,000	\$ 48,869	\$172,500
20% Contingency	19,500	-0-	34,500
	-----	-----	-----
Total Extramural	\$117,000	\$ 48,869	\$207,000
<u>Intramural Costs</u>			
Direct Costs	\$ 11,000	\$ 2,450	\$ 16,000
Indirect Costs	22,000	4,030	27,000
	-----	-----	-----
Total Intramural	\$ 33,000	\$ 6,480	\$ 43,000
ESTIMATED TOTAL PROJECT CEILING	\$150,000	\$ 55,349	\$250,000

C. Contribution to Remedial Performance

The Regional Enterprises Site is a non-NPL site, so there are currently no plans for long-term Remedial Action. The proposed Removal Action is consistent with accepted removal practices and is expected to abate the threats that meet the NCP removal criteria. The proposed action is not anticipated to impede future responses at this site.

D. Compliance with ARARs

The proposed Removal Action set forth in this memorandum will comply with all applicable, relevant, and appropriate environmental and health requirements, to the extent practicable considering the exigencies of the situation.

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VI. EXPECTED CHANGE IN THE SITUATION SHOULD NO ACTION BE TAKEN  
OR ACTION DELAYED

If no action is taken or if the action is delayed, the threat of a catastrophic release of crude oil will increase as the structural integrity of the storage tank decreases over time. Furthermore, due to the heat of reaction between the sulfuric acid and the oil, the threat of uncontrollable fire will increase as the rate of release of crude oil increases. The owner's efforts in recovery of the discharged sulfuric acid and evacuation of the crude oil tank, although well intentioned, have proven to be slow and unreliable resulting in little success.

VII. OUTSTANDING POLICY ISSUES

There are no outstanding policy issues pertaining to the Regional Enterprises Site.

VIII. ENFORCEMENT

The EPA Region III CERCLA Removal Enforcement Section has been provided with all background information available to pursue any and all Enforcement Actions pertaining to the Regional Enterprises Site. (See attached Confidential Enforcement Memorandum)

IX. RECOMMENDATION

Because conditions at the Regional Enterprises Site meet the NCP Section 300.415 criteria for a removal, I recommend your approval of this ceiling increase. The increase raises the estimated total project ceiling to \$250,000, of which approximately \$120,000 are Regional Allowance Costs. You may indicate your approval or disapproval by signing below. I recommend your approval to initiate response actions due to the nature of the threat described herein.

APPROVED: W. R. Rumschick DATE: 8-29-91

DISAPPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_

Attachment: Confidential Enforcement Memorandum

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C. Region III Incident Notification Report

REGION III INCIDENT NOTIFICATION REPORT  
1 Case No. VA 91 371

Reported: (mm/dd/yyyy) <u>8-9-91</u> 3. Time: <u>1041</u> Recorded By: <u>HAEMON</u>	
4. Through NRC: <input checked="" type="checkbox"/> 5. NRC Case No.: <u>73106</u>	
A REPORTER	6. Reported By: <u>JOHN J. JENSEN</u>
	7. Organization Name: <u>REGIONAL ENTERPRISES</u>
	8. Organization: <input checked="" type="checkbox"/> 9. discharger <input type="checkbox"/> 10. public <input type="checkbox"/> 11. state <input type="checkbox"/> 12. local <input type="checkbox"/> 13. federal
	14. Address: <u>417 WATER STREET</u>
B DIS-CHARGER	15. City: <u>THORNEWALL</u> 16. County: <u>HORREWELL</u> 17. State: <u>VA</u>
	18. Zip: <u>22061</u> 19. Phone: (804) <u>452-1916</u>
C INCIDENT LOCATION	20. <input checked="" type="checkbox"/> As Above in A 19 applies 21. Name: _____
	22. Address: _____
D TYPE	23. City: _____ 24. County: _____ 25. State: _____
	26. Zip: _____ 27. Phone: ( ) _____
E MATERIAL	28. <input checked="" type="checkbox"/> As Above in B 29. Street or Approx. Location: _____
	30. City: _____ 31. County: _____ 32. State: _____
	33. Spill Date: (mm/dd/yyyy) <u>8-9-91</u> 34. Spill Time: <u>0900</u>
	Material: <input checked="" type="checkbox"/> Oil <input type="checkbox"/> other hazardous substance 35. Material Unknown <input type="checkbox"/> UN DOT No. _____ CAS No. _____ CHRIS Code _____ Quantity Spilled: <u>4000</u> Units (Circle 11) _____
F SOURCE	36. Source of Spill: <input type="checkbox"/> 54. highway <input type="checkbox"/> 56. railway <input checked="" type="checkbox"/> 58. fixed facility <input type="checkbox"/> 60. offshore <input type="checkbox"/> 61. Vehicle ID or Carrier No. _____
	37. <input type="checkbox"/> 55. air transport <input type="checkbox"/> 57. vessel <input type="checkbox"/> 59. pipeline <input type="checkbox"/> 62. Description: <u>ABOVE GROUND 1372 TON CAPACITY STORAGE TANK</u>
G MEDIUM	38. Medium Affected: <input type="checkbox"/> 63. air <input type="checkbox"/> 64. land <input type="checkbox"/> 65. water drinking water <input type="checkbox"/> 66. groundwater <input checked="" type="checkbox"/> 67. within facility only none
	39. Waterway Affected: <u>NONE</u>
H CAUSE	40. Reported Cause: <input type="checkbox"/> 69. transportation accident <input type="checkbox"/> 71. operational error <input type="checkbox"/> 73. dumping <input type="checkbox"/> 75. other
	41. <input checked="" type="checkbox"/> 70. equipment failure <input type="checkbox"/> 72. natural phenomenon <input type="checkbox"/> 74. unknown
I DAMAGES	42. 76. Description: <u>LEAK IN TANK - CAUSE UNKNOWN</u>
	43. Damages: 77. no. of injuries _____ 78. no. of deaths _____ <input type="checkbox"/> 79. property damage > \$50,000
J ACTIONS	80. <input type="checkbox"/> Evacuation 81. Response Action Taken: <u>MATERIAL CONTAINED IN A OILED EARTH SYSTEM</u>
	82. Caller Has Notified: <input checked="" type="checkbox"/> 82. state/local <input type="checkbox"/> 83. discharger <input type="checkbox"/> 84. USCG <input type="checkbox"/> 85. other <input type="checkbox"/> 86. unknown
K COMMENTS	87. Agency Name: <u>HAEMON, City of Horrevorts</u>
	87. Comments: <u>8-9-91 - (1305) VA DES ENROUTE TO MONITOR CLEANUP ACTION</u>
L REGIONAL DATA FIELDS	88. Responsibility: <input checked="" type="checkbox"/> EPA <input type="checkbox"/> USCG <input type="checkbox"/> Non-duty hours <input type="checkbox"/> CWA 308 Spill letter
	89. Response by: <input type="checkbox"/> responsible party <input checked="" type="checkbox"/> State <input type="checkbox"/> local <input checked="" type="checkbox"/> OSC/EPA <input type="checkbox"/> other <input type="checkbox"/> USCG
	90. Agency Name: <u>VADES. EPA</u>
	91. OSC: Name: <u>ROD</u> <input type="checkbox"/> 311 Activation - PIC <input type="checkbox"/> 92. CERCLA Activation <input checked="" type="checkbox"/>
EPA NOTIFICATION: Name, date, & time: _____ USCG: _____ WFO: _____	

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**D. Newspaper Articles**

## Leak reported under control

Times-Dispatch state staff

HOPEWELL — About 30,000 gallons of sulfuric acid leaked from a storage tank, but a company official said last night that the spill was under control.

The leak from a tank at Regional Enterprises Inc., a storer and transporter of bulk materials on the city's James River waterfront, was first noticed about 9 a.m. Friday, said the company's owner, Gary Farrar.

There were no injuries or any immediate threat of harm to the environment, said Farrar.

Hopewell officials authorized to comment on the spill could not be reached.

The sulfuric acid spilled into the company's "100-percent diked area," said Farrar.

"We are working to remove the spill material and deposit it into another tank on our premises," said Farrar.

Once the spill was noticed, he said, the remaining sulfuric acid was pumped into another tank.

"We are continuing our efforts with our own equipment and manpower along with other outside contractors working with the local fire department, State Water Control Board, U.S. Coast Guard and the [Environmental Protection Agency], which were all presently on site at our terminal," Farrar said.

TD - 8/11/91

*Times-Dispatch*

atch. Monday, August 12, 1991 B-3

## Spill cleanup

Times-Dispatch state staff

HOPEWELL — Authorities said yesterday that about half of the 30,000 gallons of sulfuric acid that leaked from a storage tank has been retrieved from protective dikes.

"The good news is that our procedure worked, that no acid got into the river — so there was no environmental damage. No one got hurt," said Gary Farrar, president of Regional Enterprises Inc.

The company, on Water Street adjacent to the James River, discovered Friday morning that 30,000 gallons of sulfuric acid had leaked from a storage tank into an area that was surrounded by dikes. The dikes kept the acid from spreading, and the acid was pumped into another tank.

Nearly all of the acid will be recovered. What is not will be neutralized, he said.

Local, state and federal agencies are monitoring the cleanup.

## Crew stops spill cleanup to drain oil

By Rex Springston  
News Leader staff writer

HOPEWELL — Workers planned to halt removal of spilled sulfuric acid at a City Point storage site while they pumped out a nearby tank containing crude oil today.

They feared the crude oil tank might be damaged by the acid that spilled from a nearby tank.

After the oil tank is emptied, work will resume on removing the spilled sulfuric acid, said Janet L. Clements, spokeswoman for the Virginia Department of Emergency Services.

About 30,000 gallons of sulfuric acid spilled from a tank near the James River, but the corrosive liquid was held within an earthen impoundment, Ms. Clements said.

"There was no leakage into the river or threat to people around," she said.

The leak occurred at Regional Enterprises Inc., a storer and transporter of bulk materials on Water Street in the City Point area.

Company employees arriving at work Friday morning discovered the leak. The tank sits in a low area sealed off by an earthen dike about 5 feet tall, and the dike kept the acid from spreading, Ms. Clements said.

Workers pumped most of the acid, which has mixed with rain water, into tanker trucks yesterday, Ms. Clements said.

She could not estimate how long the cleanup would last.

Officials who have been on the scene include members of the local fire department, the State Water Control Board, the U.S. Environmental Protection Agency and the Coast Guard.

Sulfuric acid is a highly corrosive acid used to manufacture a variety of materials, including fertilizers and paints.

TD- 8/13/91

## Acid cleanup could be done by tomorrow

Times-Dispatch state staff

HOPEWELL — The 40,000 gallons of sulfuric acid that seeped out of a storage facility and threatened a nearby oil tank could be cleaned up by tomorrow, a federal official said.

About two-thirds of the chemical has been recovered from the Friday morning leak at Regional Enterprises Inc., a storer and transporter of bulk material along the James River, said Kevin Koob, the site's cleanup supervisor for the Environmental Protection Agency.

Fearing a potential spill into the nearby James River, officials began pumping about 1 million gallons of crude oil that sat in a tank near the spill to another tank yesterday morning after they noticed some leaks in its rivets caused by the acid. Authorities expect to finish today.

Although 40,000 gallons of sulfuric acid leaked — a higher figure than what was initially reported — the chemical mixed with about 100,000 gallons of rainwater. Sulfuric acid becomes more corrosive when it is mixed with water.

The acid leaked from a tank into an area surrounded by a dike, which officials said kept the spill from spreading. The loose sulfuric acid, used to manufacture products such as paint, is being pumped to railroad tanks.

Koob had no estimates for the cost of the cleanup.

# 40,000 gallons of acid threaten James River



Sulfuric acid is pumped from leaking tank into rail cars.

Hopewell News Photo by Debbie Moxley

## Officials confident of containment

By Debbie Moxley  
and Hank Billyeu  
Hopewell News Staff Writers

A tank failure caused leakage of 40,000 gallons of 97 percent sulfuric acid at the Regional Enterprise Plant on Water Street Friday threatening the James River if leaching were to occur.

Officials would not speculate on the potential dangers if the acid were to enter the river, but felt confident that it was contained and busied themselves with removing the product from the scene.

Local and state teams formed quickly to oversee the cleanup operations — and Regional called in OH Materials and Industrial Marine Services to assist in the work. Through traffic has been stopped in the area to allow the response teams to move about freely in the clean up efforts.

As of 10:30 a.m. today, 75,000 gallons or one half of the material, had been recovered and placed in tank cars. A barge brought in with the capacity to hold the entire

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## Acid

□ Continued from Page 1

amount of spillage waited along the banks of the James River and officials were considering pumping crude oil in the storage tank to the barge instead of the holding tanks for speed, said Kevin Cooh from the Environmental Protection Agency.

"Right now we are pumping at the rate of 6 inches per hour and have evacuated about 1 to 1 and 1/2 feet of the oil," said Cooh.

Several pumps had failed during initial attempts to clean up the spill on Friday until a Neoprene pump was brought in that resisted the exposure to the acid.

The leakage from tank contain-

ing the acid was into a diked area around the acid tank, another tank containing one million gallons of crude oil, and a third tank, which was empty.

The acid had begun to corrode the oil tank and plans to move the oil to another location were underway overnight as officials pumped out tank number 90, which contained 50 percent sodium hydroxide and purged it, getting ready to move the oil from tank number 40, though there was no danger from the mixing of the oil and acid.

"Our major concern is that nothing gets into the river," said Emergency Coordinator for the city Bob Brown.

There was no environmental danger from the spill, officials said. This could only happen

should the sulfuric acid be mixed with a caustic substance and/or certain other chemicals — producing reactions bringing about heat and vapor.

In that case the surrounding areas might need to be evacuated. But — as it stand — there are no such dangers, both federal and local officials emphasized during a press conference today.

Of course heavy rainfall would dilute the solution in the diked areas forcing more expense in removal. For sulfuric acid becomes more corrosive and damaging as the original solution is diluted.

And the dilution would increase gallons to be removed.

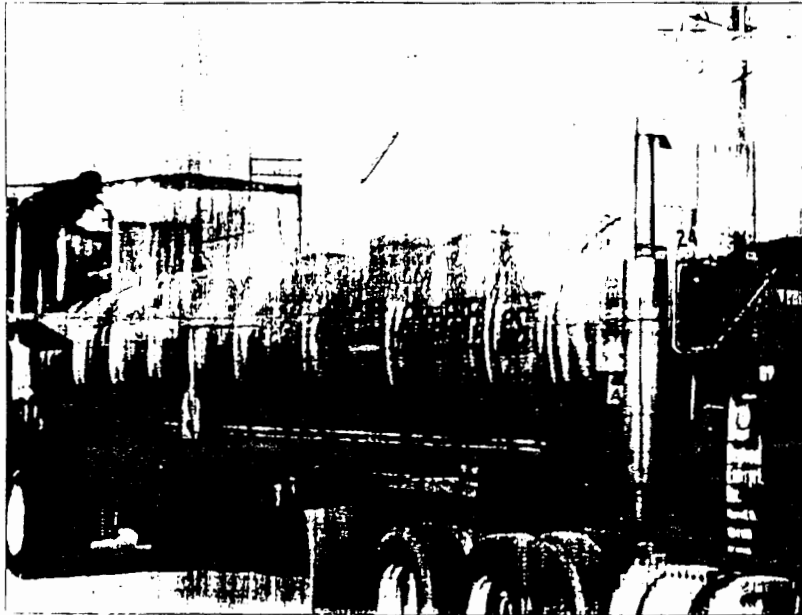
Local emergency services were joining the State Department of Emergency Services, U.S. Coast

Guard and Hopewell Bureau of Fire personnel.

Also assisting was Allied-Signal officials. Bill Morrisette of Allied's Alum plant sent empty rail cars to the site for off-loading. Allied also loaned Regional some pumps to assist in loading. They also supplied knowledge concerning sulfuric acid.

Gary Farrar, president of Regional, said that he expects to have the remainder of the spill cleaned up within the next 8 to 10 hours.

# Spill clean up continues



Regional tankers used in transferring oil to rail cars

Hopewell News Photo by Debbie Moxley

Federal, state,  
local officials  
remain at scene

By Debbie Moxley  
Hopewell News Staff Writer

Pumping of crude oil from a tank damaged by sulfuric acid continued today at Regional Enterprises on Water Street. The tank originally held one million gallons of oil, when some 40,000 gallons of sulfuric acid leaked into a diked area around the tank, mixing with 100,000 gallons of rainwater to create the acid against the metal. The leak was discovered Friday morning.

Pumping of the acid collected in small pools atop the ground is under way too, but has been hampered by several pumps breaking down and other mechanical failures, officials at the site said.

As the sulfuric acid mixes with the water, it becomes more corrosive, said officials, and as the mixture surrounded the oil tank it began to eat away at it, causing a potential danger of the oil spilling over the confines into the river.

Two submersive pumps were put on line around noon Monday, removing oil from the tank at a rate of 2,100 gallons per minute. An equipment failure early today slowed the operation, said Kevin Koob from the National Environmental Protection Agency office in Philadelphia, the on-site coordinator.

The EPA, State Police, Coast Guard, OH Management, Emergency Response and Hopewell fire, emergency response and emergency crew have been on scene since Friday, monitoring the situation and providing help in keeping the situation under control, Koob added.

"The local response teams are to be commended," he said. "The company has been most cooperative and everyone has been wonderful to work with. My job is to stabilize the emergency and that is what I am doing." A barge had been brought in by EPA in case it was needed to hold the crude oil now being pumped from the damaged tank into another one on site, but was released today.

However, an oil spill boom surrounding in the river is still in place as a safety precaution.

Regional tank trucks are being used for off-loading, with their contents later transferred to rail cars, said Gary Farrar, president of Regional. Farrar, who has operated the company for the past 17 years, said this is the first time anything like this has happened. "We are ecstatic about our safety records here," he said, pointing to more than 2,000 hours without any accidents of any kind.

He and his staff are surprised about the leak. "The bottoms on those tanks (made of carbon steel) are only five years old," he said.

## Spill

Continued from Page 1

"And we will be as curious as anyone to see what caused them to leak."

Regional is now making plans for removal of the contaminated soil and considering other EPA recommendations. "We are looking at the next step once the situation is turned back over to us," said Farrar.

Sodium hydroxide stored near the acid is being pumped as a precautionary measure and Koob said all but two feet of the material has been removed. All but five feet of the 1 million gallons of oil has been successfully pumped into the holding tank, he added.

The biggest threat has been the leakage of the oil into the river, and officials say that even though the threat is still there and they are handling the situation cautiously, the danger diminishes with each gallon of oil pumped out of the tank.

Until the oil and the acid are safely removed, assessments of the damage and cause for the leakage can not be determined, Koob said.

E. Photo Documentation

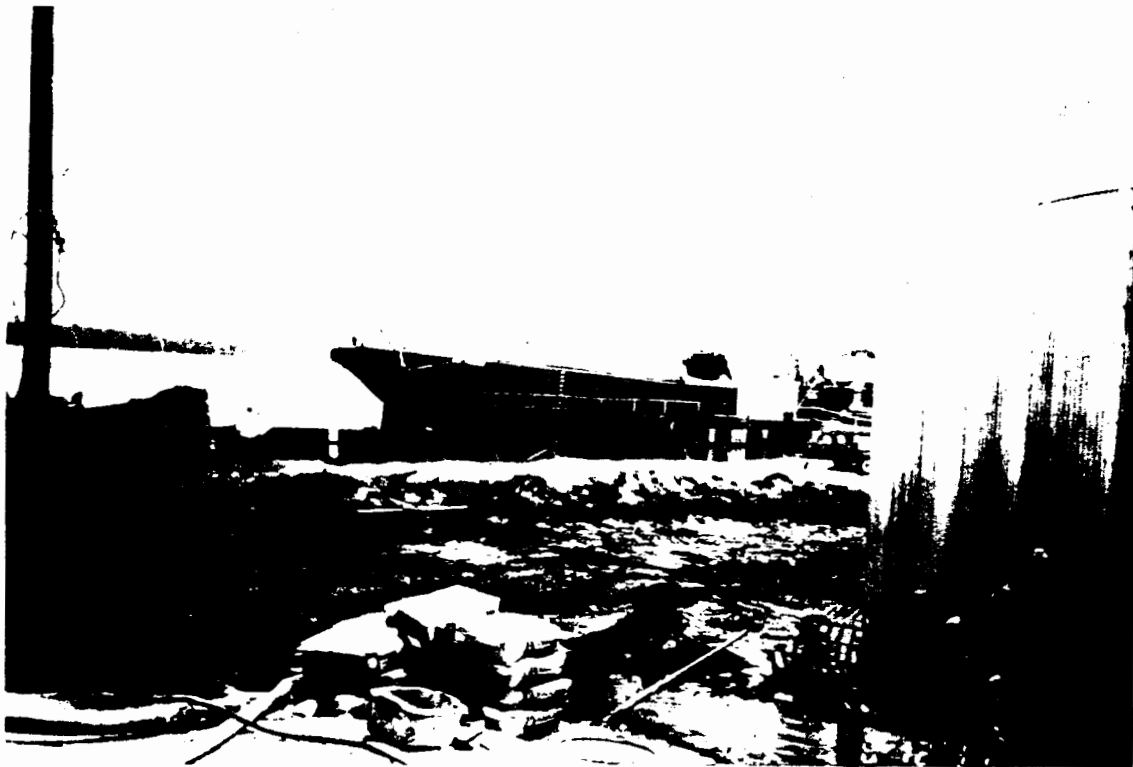


Photograph #: 1

Date Taken: August 10, 1991

Photographer: Region III TAT

Description: View of leaking acid tank and in the foreground the million-gallon oil tank surrounded by a pool of spilled sulfuric acid at varying concentrations.



**Photograph #:** 3

**Date Taken:** August 12, 1991

**Photographer:** Region III TAT

**Description:** View of the oil barge that was brought to the pier adjacent to the Regional Enterprises facility in the James River. This barge was brought to site by the ERCS contractor to store the oil from the threatened million-gallon oil tank if no other appropriate receptacle could be found.



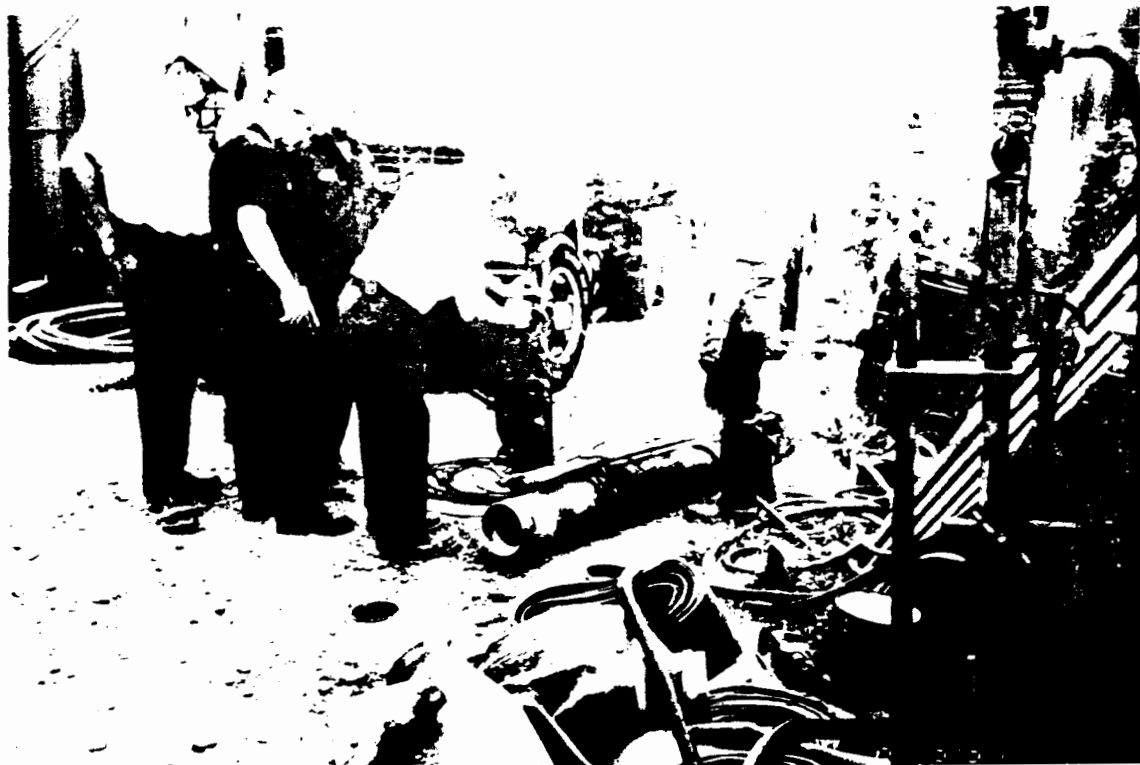
**Photograph #:** 4

**Date Taken:** August 12, 1991

**Photographer:** Region III TAT

**Description:** Overall view of the Regional Enterprises facility. The white rail tank cars in the front of the photograph are two of the tank cars into which spilled acid was pumped.

ORIGINAL  
(10/1)



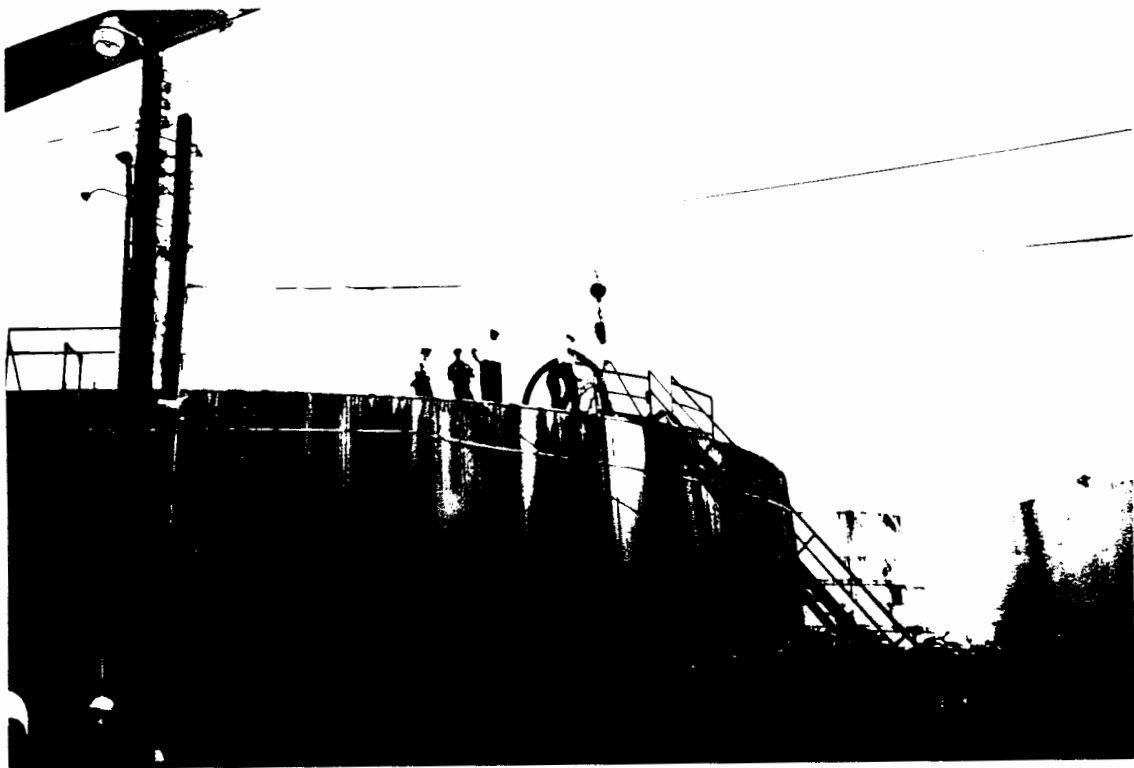
**Photograph #:** 5

**Date Taken:** August 12, 1991

**Photographer:** Region III TAT

**Description:** View of centrifugal pump being installed in the million-gallon slop-oil tank by ERCS, Coast Guard, and PRP Contractor IMS personnel. The installation and use of this pump sped-up oil transfer operations to further decrease the risk of a catastrophic spill of oil.

ORIGINAL  
(1991)



**Photograph #:** 6

**Date Taken:** August 12, 1991

**Photographer:** Region III TAT

**Description:** View of centrifugal pump being installed in the million gallon slop-oil tank by ERCS, Coast Guard, and PRP Contractor IMS personnel. The installation and use of this pump sped-up oil transfer operations to further decrease the risk of a catastrophic spill of oil.



**Photograph #:** 7

**Date Taken:** August 12, 1991

**Photographer:** Region III TAT

**Description:** The U.S. Navy provided a truck full of booms to be used in the event of a spill of oil into the James River.



**Photograph #:** 8

**Date Taken:** August 12, 1991

**Photographer:** Region III TAT

**Description:** The U.S. Navy provided an oil recovery boat to be on standby in the event of a spill of oil into the James River.

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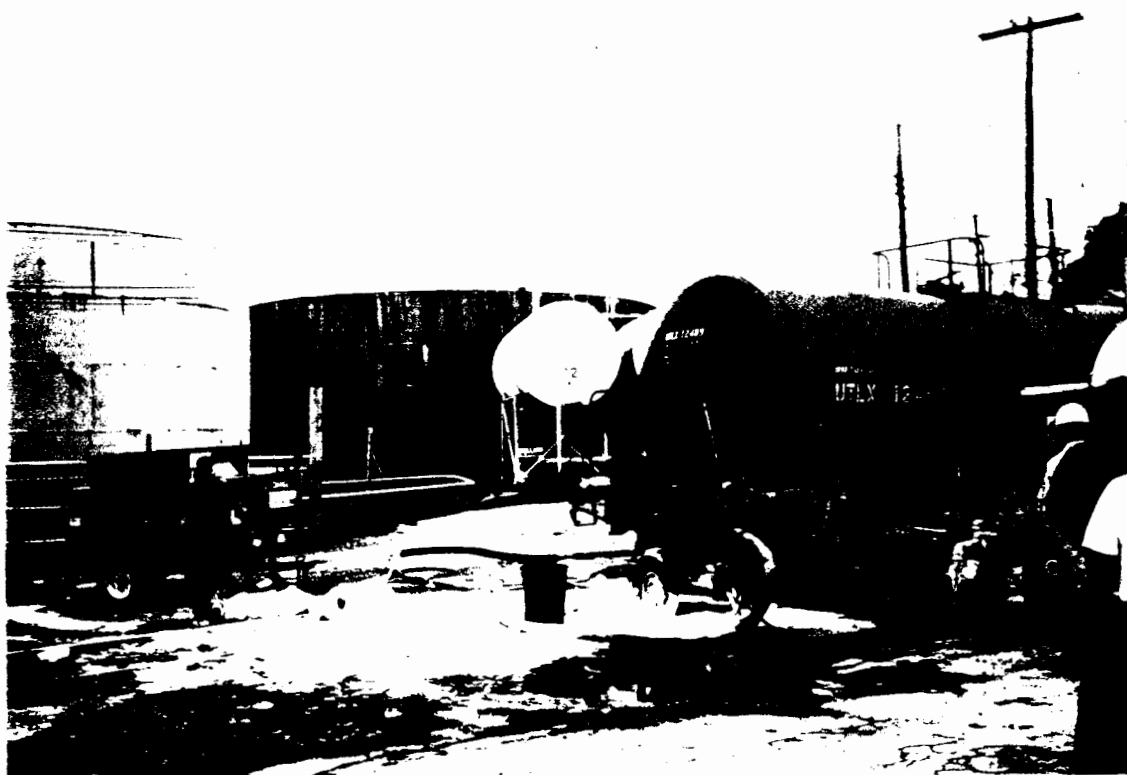
**Photograph #:** 9

**Date Taken:** August 13, 1991

**Photographer:** Region III TAT

**Description:** View of Regional Enterprises personnel applying soda ash to neutralize the soil where the acid spill took place.

ORIGINAL  
(100)



**Photograph #:** 10

**Date Taken:** August 13, 1991

**Photographer:** Region III TAT

**Description:** View of a leaking rail car tanker. The spill was neutralized using soda ash and then the tank car was placed in a position where any leaking acid would flow into a bermed area.